

# Need for Journal Analysis: Is Citation-Based Scores Good Enough to Rank a Journal?

Jitendra D. Lakhani, Niraj Pandit, Girish Sailor<sup>1</sup>

Department of Medicine and Community Medicine, SBKS MIRC, Sumandeep Vidyapeeth, <sup>1</sup>Department of Pharmacy, Sumandeep Vidyapeeth, Vadodara, Gujarat, India

## Abstract

Journal analysis denotes evaluation, assessment, ranking, and scoring of a journal. It is an important exercise to be adopted by learning resource organization for recommending a journal for referring, scanning, referencing, subscribing, publishing, circulating, and disseminating purposes. Evaluation is done qualitatively in relation to content, objectives, and ethos. Rhetorical analysis of a journal will take into account something which is abstract and nonliteral. Advancement in ideology, in relation to different sphere of academic domains, is important key element of a particular journal. Journal which may communicate theory, practice, methods, skills, and thought process as a whole can reflect the image of an excellent journal. Analysis of these qualitative aspects should be part of the journal analysis. Quantitatively it can be ranked by modern tools which started as Science Citation Index and impact factor (IF) which then progressed to other numerical integers such as Eigenfactor score, Article Influence Score, and others. Numerical IFs have led to ranking system of journals and are based on “citations.” Can “citations” and its resultant statistics measure true impact of a journal? This article tries to share their viewpoint with discussion on various aspects of journal analysis.

**Keywords:** Citation, journal analysis, journal ranking

## PREAMBLE: JOURNAL ANALYSIS: USEFUL ENDEAVOR FOR ACADEMICS

Journal analysis is useful exercise to be done by academicians, libraries, learning resource centers, teaching institutes, universities, publication houses, data collecting sites, and all the stakeholders of the research Institutes. Most of the time, this practice is done by a group or a committee; however, analysis done by an individual is equally important.<sup>[1]</sup> Research scholar has to decide for suitable journal for publishing their thought process, innovation, and research for which this process has to be taken by oneself. Thought process generated out of a journal can be concrete or may be abstract to start with. Experts, journal analysis committee, research guides, professional associations, and organizational leaders may recommend journal/journals for various academic purposes such as referring, scanning, referencing, subscribing, publishing, circulating, and disseminating. In recent times, quantitative tools are available for ranking and analysis purpose which is well researched, structured, reproducible, and authentic. However, inherited limitation does exist in this system of analysis.

## IS RHETORICAL ANALYSIS OF JOURNAL EVALUATION GOOD ENOUGH?

Rhetorical analysis is a part of qualitative analysis of a journal which forms an important component of journal analysis.<sup>[2]</sup> Rhetorical analysis is breaking a “whole” “to” pieces” for scrutiny.<sup>[3]</sup> Rhetorical analysis may take into account, some subtle aspects which may be abstract, metaphorical, value based, and nonmeasurable in numerical. If authenticity and publication ethics is maintained, good journal can be easily picked up through viewing it through viewpoint of a user. Rhetorical analysis may involve various portions of a journal like how an editorial is written, how original research manuscript is presented? Which language is used? What is referencing style? Articles contained in the journals gives

**Address for correspondence:** Dr. Jitendra D. Lakhani,  
Department of Medicine, SBKS MIRC, Sumandeep Vidyapeeth,  
Vadodara, Gujarat, India.  
E-mail: [jitendralakhani@doctor.com](mailto:jitendralakhani@doctor.com)

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clear message or not? Presentation of results and reviews which is viewer friendly such as tables, charts, graphs, pictures, forest plots, figures, and necessary illustrations giving translucent and logical information reflects the quality of good journal. Simple but up to date, not very lengthy manuscripts but to the point discussion, use of necessary statistics and evidence, meta-analysis, and systematic reviews all may give eminence to a journal. English language is widely used medium in most journals. Correct English in grammar, syntax, spelling, and meaning may be an essential part of the journal. A good journal should maintain reasonable standards of English language which is conveying message with clarity.

### TITLE OF JOURNAL: FIRST IMPRESSION CANNOT BE FINAL NOTION

Title based on prefix “International,” “National,” and “Regional” may carry message to its user but should not be judged for better ranking. Important aspect is the content delivered by the journal. Title of the journal can be “Running Title” which may be abbreviated for convenience sake if it is long. It is printed on the text pages. Title may be prefixed with Country (Indian Journal of ....), State (Gujarat Medical Journal), Continent (Asian Journal of....), Geographical region (Tropical journal.), or many links with Associations and Organizations.

### IMPORTANT FACETS IN JOURNAL ANALYSIS

In recent times, lots of importance is given by to “peer-reviewing process” of the journal, their policies in regard to plagiarism, publication ethics, archiving methods, and citations of research articles of a particular journal. Research communication in the form of Original articles, Innovations, Reviews, Ideas, Discussions, Critical analysis, Meta-analysis, Therapeutic guidelines, Conference proceeding, and others which will be a part of vista of an academic journal may vary *in tempo* in different journals. The academic impact given by them is essential core part of journal analysis is an agreeable connotation. This impact has abstract meaning and part of rhetorical analysis but now is given numerical characteristic by various tools of scoring and journal analysis.

### QUANTITATIVE EVALUATION OF A JOURNAL: SCORES AND TOOLS USED FOR RANKING

To score a given journal in a measurable number is done through quantitative analysis. How best a journal is able to do its job in various domains is measurable through quantitative tools of evaluation. Science Citation Index (SCI) is an innovation of Eugene Garfield in 1955, was put in practice in 1964, and its by-product “SCI Journal Citation Reports (JCR)” was launched in 1975.<sup>[4-6]</sup> In his landmark article in the year 1955 on “Citation Indexes for Science A New Dimension in Documentation

through Association of Ideas,” he proposed a bibliographic system for scientific literature.<sup>[4]</sup> It was thus, devised as a search engine, but it got success as a tool for measuring scientific productivity. JCRs and its impact factor (IF) rankings are a byproduct of SCI.<sup>[5,6]</sup> Thomson Reuters has produced citation reports (JCRs) database for evaluation of a journal.<sup>[7]</sup> This tool uses citation data to form an IF which is measurable and has numerical value. IF denotes figure and gives a meaningful symbol which mean articles of the journal are acknowledged, cited, read meaningfully, applied, and have given impact to the stakeholder’s credentials. Statistical analysis of written publications is known as bibliometrics. Citation analysis, IF, and other scores are used for bibliometrics.<sup>[8,9]</sup> Use of IF for quantitative journal evaluation has limitations such as wide use of English language journals may have better citation score. Impact Factor (IF) may be more due to self-citation, citation by the review articles and due to noncitable items, different denominator of total number of citable items and others.<sup>[10]</sup>

### ADVANCEMENT IN BIBLIOMETRICS AND SCORING SYSTEMS FOR JOURNAL ANALYSIS

Eigenfactor score developed at University of Washington is based on the number of incoming citations. The impact of the journal goes *pari-passu* with Eigenfactor score. The Eigenfactor approach is more advanced technique than the IF. Impact Factor (IF) counts incoming citations without considering the significance of those citations which is been taken care in Eigen Factor (EF). For a given number of citations, those from more significant journals will result in a higher Eigenfactor score. Originally, Eigenfactor scores were measures of a journal’s importance, it has been extended to author level. It can also be used in combination with the h-index to evaluate the work of individual scientists.<sup>[11-15]</sup>

The Article Influence Score (AIS) is like the traditional IF which signifies influence of articles in the journal. Eigenfactor Score (ES) and AIS rank journals in a slightly different manner than IF. This score uses algorithm similar to “Page Rank (PR)” of Google. PR, named on one of the founders of Google, Larry Page, uses an algorithm by a way of measuring the importance of website pages.<sup>[16]</sup> Similar algorithm is used by ES and AIS taking into consideration of prestige of citation source in the account. Again, they have different time window based on 5 years of citations. ES is based on total citations not the citable items of a journal. It is not having denominator like IF. AIS and SCImago Journal Rank (SJR) indicator have similar concepts in the sense that calculation is of mean influence of citations.<sup>[17]</sup>

### SCIMAGO JOURNAL RANK INDICATOR AND SCOPUS JOURNAL ANALYZER

This journal quality indicator was proposed by SCImago Research Laboratory in Spain in 2007, which uses Scopus indexed journals for quality assessment and consider citations

in Scopus database in a 3-year period.<sup>[16]</sup> Elsevier produced a tool known as Scopus Journal Analyzer (SJA), which is designed for evaluating journals in sphere of medicine, technology, science, and social science. SJA provides SJR which indicates scientific influence of the journal.<sup>[17]</sup> Source Normalized Impact per Paper (SNIP) scores for journals were created by Professor Henk Moed at the Centre for Science and Technology Studies, University of Leiden. SNIP which is a part of SJA.<sup>[18,19]</sup>

## INTERNATIONAL IDENTIFIER FOR SERIALS AND OTHER CONTINUING RESOURCES, IN THE ELECTRONIC AND PRINT WORLD: FIRST STEP FOR JOURNAL RECOGNITION AND ASSESSMENT

One of the first important assessments of a journal is done by ISSN.<sup>[20]</sup> One of the sources of bibliographic and publisher information is Ulrichsweb.<sup>[21]</sup> It gives preliminary information of all types of publication such as peer-reviewed titles, newspapers as well as newsletters, and also Open Access publications. It has data of 300,000 periodicals including academic and scholarly journals.

### Limitation of scoring systems

Many issues can influence citation rates, on which this score is based. Some may be directly related to citation, while some may be related indirectly as article appeared in a journal which is not high ranking. This issue may be in relation to specialty, language, and track record of journal, format, publication frequency, and time lapse between origins of a manuscript to final publication. The factor which is important for developing countries which has indirect bearing to journal's IF is publication cost.<sup>[22]</sup>

The number of articles given for journals listed in JCR includes primarily original research and review articles. Editorials, letters, news items, and meeting abstracts are usually not included in article counts because they are not generally cited. Most of the tools used for quantitative analysis for journal evaluation take into account number of citation, which of course has changed and revolutionized publication ethics; however, it is like monopolizing business. Better ranking journals may get more number of citations and they get better in rank. Complex scores and metrics maybe difficult to be understood by an academician which may result in noncitation of their work which in turn not published in high-ranking journal. There are many nonacademic factors such as visibility, archiving policies, marketing techniques, and others which may lead to more citations. Like an amateur artist finding a breakthrough platform difficult, a budding scientist may not be able to communicate research work in high ranking established journal because of want of awareness of such scores,<sup>[23]</sup> long publication time, various stipulated manuscript norms, and manuscript processing fees. Establishing a novice journal which has innovative ideas may not get good clientage and stakeholders as their ranking in relation to citation score may

be poor. This maybe a vicious circle and such journal may die before time.

## CONCLUSION

Quantitative tools, most of which takes citation for ranking of the journal may have limitations. A need-based analysis of a journal at an institutional level is required, which should be unbiased, multifactorial, and holistic. Not only quantitative scoring tools and citation numbers to be accounted for but also qualitative, ethics, and values should be a part of journal analysis process. For sustenance of a value-based good quality journal, ranking system should not become an obstacle.

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